Don Bosco Technical College	Topic Outline	Campus: Mandaluyong Sector: TVET Page Number:

Course/Program/Subject	Duration (in hours per week)	Training Modality
Metrology	5 Hours	Face to Face
Target Qualification	**Duration (in weeks)**	**Developed By**
EIM NC II	16 Weeks	Robin Louis F. Perdiguerra

Course Objectives:

By the end of this course, students will be able to:

1. Demonstrate proficiency in using basic and precision measuring tools, including tape measures, rulers, calipers, and micrometers.
2. Convert measurements accurately between metric and imperial systems and apply them to electrical installations.
3. Read and interpret layout and wiring plans, extracting dimensional and positional information for on-site applications.
4. Measure, mark, and verify dimensions on conduits, boxes, and mounting surfaces with minimal error.
5. Calculate wire lengths, conduit runs, and box fill using appropriate formulas and tolerances.
6. Apply electrical measurement techniques using appropriate test instruments.
7. Identify and correct errors in measurement, ensuring accuracy in cutting, assembling, and installing components.
8. Document and record measurement data in accordance with standard formats used in the electrical trade.

Week/Day	Topic	Learning Activities	Assessment Methods
1	Introduction to Measurements	Lecture, Discussion	Participation
2	Units and Unit Conversion	Metric to Imperial Conversion Exercises	Activity Sheet
3	Electrical Measuring Tools	Using Voltmeter, Ammeter, Ohmmeter and Multimeter	Laboratory output
4	Linear Measuring Tools	Use linear measuring tools	Activity Sheet
5	Reading Blueprint and Layout Plans	Measure dimensions on actual wiring plans	Activity Sheet and Written Quiz
6	Surface Area and Volume	Apply to conduit runs and box sizing	Activity Sheet
7	Oscilloscope	Using and Reading Oscilloscope	Laboratory Output
8	Megger Tester	Using and Reading Megger Tester	Laboratory output
9	Wire Sizing ang Wire Gauges	Measure, Identify Wire Gauges and Uses	Activity Sheet
10	Conduit Bending Calculations	Measure Lengths and Angles before bending	Laboratory Output and Written Quiz
11	Measuring Panel Boards and Enclosures	Lay-out and fit-out checks	Laboratory Output
12	Error Identification & Correction	Identify and Rectify Measurement Mistakes	Laboratory Report
13	Test & Record Measurements	Taking real readings and actual data	Laboratory Report
14	Practice Exercises	Layout conduits and measure bends	Laboratory Report
15	Integration with Electrical Systems	Measure in wiring setups	Completion Report and Written Quiz
16	Final Performance Test	Institutional Assessment	Institutional Assessment